

1.24 PROTECTION OF EXISTING STRUCTURES

- A. All existing walks, pipes, conduits, poles, fences, stairways, curbing, walls, buildings, trees and other structures which are to remain in place shall be carefully supported and protected from injury by the Contractor without additional compensation and in case of injury they shall be restored by him without compensation therefore to as good condition as that in which they were found.
- B. The Contractor shall, at his own expense, provide suitable and safe bridges and other crossings, where required for accommodation of travel and to provide access to private property during construction, and shall remove said structures thereafter.
- C. Utility lines shown are located from the best information available. Services may not be shown. The existence of utilities which are normally located in the streets and not shown on the plans shall not be considered as an unusual obstacle, and the Contractor shall not be entitled to extra compensation for maintaining, protecting, or restoring utilities which he disturbs.

1.25 "CLEAN AIR ACT AND FEDERAL WATER POLLUTION CONTROL ACT"

- (h) All pertinent rules and regulations issued under and pursuant to the National Environmental Policy Act of 1969 as amended (P.L. 90-190) (42 USC 4321); the National Historic Preservation Act of 1966 (80 Stat. 915, 16 USC 470); the Wild and Scenic Rivers Act P.L. 90-542 as amended, and Executive Order No 11593 of May 31, 1971.
- (i) Flood insurance requirements, pursuant to the Flood Disaster Protection Act of 1973 (P.L. 93-234, 87 Stat. 975), as amended, and any regulations issued thereunder by the U.S. Department of Housing and Urban Development and/or the Economic Development Administration.
- (j) Parts 3, 5 and 5a, Subtitle A, Title 29, Code of Federal Regulations, as amended, which shall be applicable to every invitation for bids and to every negotiation, request for proposals, or request for quotations, for a construction contract and to every such contract entered into on the basis of such invitation or negotiation. Part 5a 3, Subtitle A., Title 29, Code of Federal Regulations shall constitute the conditions of each contract in excess of \$10,000, and each Grantee and contractor shall include these conditions or provide for their inclusion, in each such contract. Parts 5a. 4 5a. 5, 5a. 6 and 5a. 7 shall also be included in each such contract for the information of the contractor. Apprentices and trainees shall be hired in accordance with the requirements of Part 5a.

1.26 SPECIAL REQUIREMENTS

- A. The Contractor shall be aware that it is his responsibility to maintain the conditions of the fields, within the limit of work, that are not under construction at any specific time. This maintenance shall include but is not limited to lawn mowing and trash removal.

1.27 PHOTOGRAPHS OF PROJECT

- A. Prior to the beginning of work the Contractor shall take eight (8) photographs at locations approved by the Project Manager. Digital photographs are an acceptable substitute as long as the digital files are of sufficiently high resolution to make 8" x 10" prints.
- B. On the last work day of each month, for the duration of the contract, the Contractor shall take eight (8) additional photographs from essentially the same location as the original photographs to demonstrate the progress of work.

- C. In the forwarding or e-mailing the photos, note the date on which it was taken, the title of the project, the project number, the name of the Project Manager, the name of the General Contractor, and the identification of the location of the photograph. Submit one (1) copy of the photographs either as 8" x 10" prints or on a CD-ROM.

1.28 FULFILLMENT OF AAB REQUIREMENTS

- A. The Contractor shall build the wheelchair ramps to the 521 CMR 21 standards
- B. The Contractor shall hire a Design Professional to verify that all Architectural Access Board requirements set forth in 521 CMR 21.00 for curb ramps are fulfilled by the new construction.

SECTION 01010
SUMMARY OF WORK

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Work by Owner
- B. Owner furnished products
- C. Contractor use of site
- D. Future work
- E. Work sequence

1.02 WORK BY OWNER

- A. None.

1.03 OWNER FURNISHED PRODUCTS

- 1. Omitted

1.04 CONTRACTOR USE OF SITE

- A. Refer to other sections of Project Manual for requirements with respect to time for performing work, project limits, access, etc.

1.05 FUTURE WORK

- A. None

1.06 WORK SEQUENCE

- A. Construct Work in stages to accommodate Owner's requirements during the construction period, coordinate construction schedule and operations with Owner and other contractors working on the site.

- END OF SECTION 01010 -

SECTION 01019
CONTRACT CONSIDERATIONS

PART 1 - GENERAL

1.01 GENERAL INCLUDES

- A. Cash Allowances
- B. Contingency Allowance
- C. Inspection and Testing Allowances
- D. Schedule of Values
- E. Application for Payment
- F. Change Procedures
- G. Alternates

1.02 RELATED SECTIONS

- A. Proposal Form: Contract Sum, Unit Prices and Alternates.
- B. Section 01300 - Submittals: Schedule of Values.
- C. Section 01600 - Material and Equipment: Product substitutions and alternates.

1.03 CASH ALLOWANCES

None

1.04 CONTINGENCY ALLOWANCE

None

1.05 INSPECTION AND TESTING ALLOWANCES

None

1.06 SCHEDULE OF VALUES

- A. Submit typed schedule on approved City's forms.
- B. Submit Schedule of Values in duplicate within 15 days after date of Owner-Contractor Agreement. Schedule shall be approved by the Project Manager prior to submitting the first application for payment.

- C. Format: Utilize the format provided in the Invitation for Bids / Final Contract. Identify each sub-line items with number and title of the major specification Section. Identify site mobilization, bonds and insurance. Identify shop drawings and submittals as pay item. Compensation amount for this work category shall be approved by Owner.
- D. Revise schedule to list approved Change Orders, with each Application For Payment.

1.07 APPLICATION FOR PAYMENT

- A. Submit two (2) copies of each application on City's forms.
- B. Content and Format: Utilize Schedule of Values for listing items in Application For Payment.
- C. Payment conditions for payments to be requested under "stored materials provisions":
 - 1. Provide receipted invoice for purchased materials.
 - 2. Provide typed "certificate of title" transferring ownership of stored materials to Owner.
 - 3. Provide Certificate of Insurance for theft, damage and casualty loss for stored materials with Owner listed as beneficiary.
 - 4. Provide satisfactory evidence to Owner that stored materials are within safe storage area.

1.08 CHANGE PROCEDURES

- A. The Project Manager will approve minor changes in the Work not involving an adjustment to Contract Sum/Price or Contract Time.
- B. The Project Manager may issue a Proposal Request which includes a detailed description of a proposed change with supplemental or revised Drawings and specifications, a change in Contract Time for executing the change and the period of time during which the requested price will be considered valid. Contractor will prepare and submit an estimate within 7 days.
- C. The Contractor may propose a change by submitting request for change to the Project Manager, describing the proposed change and its full effect on the Work. Include a statement describing the reason for the change, and the effect on the Contract Sum/Price and Contract Time with full documentation (and a statement describing the effect on Work by separate or other contractors). (Document any requested substitutions in accordance with Section 01600.)
- D. Stipulated Sum/Price Change Order: Based on Notice of Change and Contractor's fixed price quotation (or Contractor's request for a Change Order as approved by the Project Manager).
- E. Change Order: Should certain additional work be required, or should the quantities of certain classes of work be increased or decreased from those on which the Contract Sum is based, by order or approval of the Owner, the supplemental unit prices may be used as the basis of payment to him or credit to the Owner for such addition, increase, or decrease in the work as determined solely by the Owner.

Supplemental unit prices shall cover all costs, and the prices given shall represent the exact amount per unit to be paid the Contractor (in the case of additions or increases) or to be refunded the Owner (in the case of decreases). No additional adjustments will be allowed for overhead, profit, insurance or other direct or indirect expense of Contractor or Subcontractor.

- F. Construction Change Authorization: The Project Manager may issue a directive on City's forms signed by the Owner, instructing the Contractor to proceed with a change in the Work, for subsequent inclusion in a Change Order. Document will describe changes in the Work, and designate method of determining any change in Contract Sum/Price or Contract Time. Promptly execute the change.
- G. Time and Material Change Order: Submit itemized account and supporting data after completion of change, within time limits indicated in the Conditions of the Contract. The Project Manager will determine the change allowable in Contract Sum/Price and Contract Time as proved in the Contract Documents.
- H. Maintain detailed records of work done on Time and material basis. Provide full information required for evaluation of proposed changes, and to substantiate costs for changes in the Work.
- I. Change Order Forms: City's Forms.
- J. Execution of Change Orders: The Project Manager will issue Change Orders for signature of parties as provided in the Conditions of the Contract.

- END OF SECTION 01019 -

SECTION 01030

ALTERNATES

1.01 REFERENCES

- A. Examine all drawings and all other specification sections for requirements related to this section.

1.02 SCOPE

- A. For each of the below listed alternates, each of the bidders shall state the amount in order of numbering.
- B. The work described by any or all of the below listed alternates may be accepted by the owner. The contract agreement shall list those which are accepted, if any, and the work of the contract shall thereby be modified to the extent described under the accepted Alternates. Also, the Contract sum for the project shall be altered on the basis of alternate prices given on the successful bidder's proposal.
- C. The description of alternates herein below and through the specifications are detailed to assist the Contractor and the various trades in understanding the work required thereby, and are intended to set the intent and to list the major work only. Such descriptions are not to be taken as limiting the work required under each of the accepted alternates to be done without additional cost to that agreed upon as the alternate price.

1.03 INSTRUCTIONS AND PROVISIONS

- A. Each Bidder shall be held fully responsible for examining the scope of the alternates generally defined herein and for recognizing any modifications to the work caused by any alternate whether or not the particular trade Section is mentioned therein.
- B. All Sections of work which are affected by the alternates will be considered work to be performed by the General Contractor.
- C. General bidders shall enter a single amount in the appropriate space provided in the Form for Bid, which total amount shall consist of the amount for all work to be performed by the General Contractor.
- D. The work of the various trades to be performed under Alternates shall be in strict accordance with the requirements of the particular trade.

1.04 DEDUCT ALTERNATE NO. 1 –

A. Scope

Eliminate all work associated with the three ramps set forth under Section 2.10: Cherry Street and Elm Street

1.05 DEDUCT ALTERNATE NO. 2 -

A. Scope

Eliminate the item at Somerville Avenue and Prospect Street to grind and repave entire intersection from 20-feet from each corner.

1.06 ADD ALTERNATE NO. 1-

A. Scope

Contractor shall provide and install: TBD

1.07 ADD ALTERNATE NO. 2

A. Scope

Contractor shall provide and install: TBD

1.08 ADD ALTERNATE NO. 3

A. Scope

Contractor shall provide and install: TBD

1.09 ADD ALTERNATE NO. 4

A. Scope

Contractor shall provide and install: TBD

- END OF SECTION 01030 -

SECTION 01039

COORDINATION AND MEETINGS

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Coordination
- B. Field engineering
- C. Alteration project procedures
- D. Cutting and patching
- E. Pre-construction conference
- F. Progress meetings

1.02 COORDINATION

- A. Coordinate scheduling, submittals, and work of the various sections of specifications to assure efficient and orderly sequence of installation of interdependent construction elements.
- B. Verify that utility requirement characteristics of operating equipment are compatible with existing utilities. Coordinate work of various sections having interdependent responsibilities for installing, connecting to, and placing in service, such equipment.
- C. Coordinate space requirements and installation of mechanical work that are indicated diagrammatically on Drawings. Follow routing shown as closely as practicable. Utilize spaces efficiently to maximize accessibility for other installations for maintenance, and for repairs.
- D. In finished areas (except as otherwise indicated), conceal pipes within the construction.
- E. Coordinate completion and clean up of work of separate sections in preparation for Substantial Completion.
- F. After Owner occupancy of premises, coordinate access to site for correction of defective Work and Work not in accordance with Contract Documents, to minimize disruption of Owner's activities.

1.03 FIELD ENGINEERING

- A. Provide field engineering services. Establish elevations, lines, and levels, utilizing recognized engineering survey practices.

1.04 ALTERATION PROJECT PROCEDURES

- A. Materials: As specified in product Sections; match existing products and work for patching and extending work.
- B. Close openings in exterior surfaces to protect existing work from weather and extreme temperature and humidity.
- C. Remove, cut and patch work in a manner to minimize damage and to provide a means of restoring products and finishes to specified condition.
- D. Refinish visible existing surfaces to remain to specified conditions for each material, with a neat transition to adjacent finishes.
- E. Where new work abuts or aligns with existing, perform a smooth and even transition. Patched work to match existing adjacent work in texture and appearance.
- F. When finished surfaces are cut so that a smooth transition with new work is not possible, terminate existing surface along a straight line at a natural line of division and make recommendation to Landscape Architect review.
- G. Where a change of plane of 1/4 inch (6mm) or more occurs, submit recommendation for providing a smooth transition for Landscape Architect/Engineer review.
- H. Patch or replace portions of existing surfaces which are damaged, lifted, discolored, or showing other imperfections.
- I. Finish surfaces as specified in individual project Section.

1.05 CUTTING AND PATCHING

- A. Employ skilled and experienced installer to perform cutting and patching.
- B. Execute cutting, fitting, and patching including excavation and fill to complete work and to:
 - 1. Fit the several parts together, to integrate with other work
 - 2. Uncover work to install or correct ill-timed work
 - 3. Remove and replace defective and non-conforming work
 - 4. Provide openings in elements of work for penetrations of mechanical and electrical work.
- C. Execute work by methods which will avoid damage to other work, and provide proper surfaces to receive patching and finishing.
- D. Cut rigid materials using masonry saw or core drill.
- E. Restore work with new products in accordance with requirements of Contract Documents.
- F. Fit work tight to pipes, sleeves, ducts, conduit, and other penetrations through surfaces.

- G. Refinish surfaces to match adjacent finishes. For continuous surfaces, refinish to nearest intersection.

1.06 PRE-CONSTRUCTION CONFERENCE

- A. Owner will schedule a conference after Notice of Award.
- B. Attendance Required: Project Manager, Design Professional and Work Foreman
Optional: Engineer
- C. Agenda:
 - 1. Distribution of Contract Documents;
 - 2. Submission by Contractor of list of Subcontractors, list of products, Schedules of Values, and progress schedule;
 - 3. Designation of personnel representing the parties in Contract, and the Project Manager;
 - 4. Procedures and processing of field decisions, submittals, substitutions, applications for payment, proposal request, Change Orders and Contract closeout procedures;
 - 5. Scheduling

1.07 PROGRESS MEETINGS

- A. Schedule and administer meetings throughout progress of the Work at maximum weekly intervals.
- B. Attendance Required: Job superintendent, subcontractors and suppliers as requested by the Project Manager as appropriate to agenda topics for each meeting.
- C. Agenda:
 - 1. Review minutes of previous meetings;
 - 2. Review of Work progress;
 - 3. Field observations, problems and decisions;
 - 4. Identification of problems which impede planned progress;
 - 5. Review of submittals schedule and statues of submittals;
 - 6. Maintenance of progress schedule;
 - 7. Correcting measures to regain projected schedules;
 - 8. Planned progress during succeeding work period;
 - 9. Coordination of projected progress;
 - 10. Maintenance of quality and work standards;

11. Effect of proposed changes on progress schedules and coordination;
12. Other business relating to Work.

- END OF SECTION 01039 -

SECTION 01040
EXISTING CONDITIONS

1.01 GENERAL PROVISIONS

- A. The Conditions of the Contract and other Sections of Division I, General Requirements apply to this section.

2.01 EXISTING CONDITIONS

- A. Before submitting a bid, the Contractor shall make a thorough examination of the conditions at the site, checking the requirements of the Plans and Specifications with the existing conditions.
- B. No claim for extra compensation or extension of time will be allowed on account of the Contractor's failure to estimate properly the quantities, locations, and measurements of all items required to complete the work which could be discerned from visiting the site.
- C. The Contractor shall report any discrepancies to the Architect and request an interpretation.

3.01 EXISTING BUILDINGS AND SITE IMPROVEMENTS

- A. Design concepts presents are approximate and are intended for reference purposes only. It is the responsibility of the Bidders to visit the site and familiarize themselves with the site features to be improved and constructed. Before doing any work or ordering any material, Contractors shall visit make measurements of road, sidewalk and curb widths, road slopes and sidewalk cross slopes, locate existing obstructions, street furniture, utility structures and other site conditions that could affect construction of the ramps and compliance with the AAB requirements. No extra charge or compensation will be allowed for conditions that can be readily observed or disclosed through Dig — Safe and review of plans available from the City Engineer.

END OF SECTION

SECTION 01050
CONDUCT OF THE WORK

1.01 GENERAL PROVISIONS

- A. The Conditions of the Contract and other Sections of Division I, General Requirements apply to this section.

2.01 PROJECT MANAGEMENT

- A. The Contractor's attention is directed to the General Conditions.
- B. The Contractor shall take all necessary precautions to ensure the public safety and convenience during construction.
- C. The work must be completed in a continuous uninterrupted operation. The Contractor must use sufficient personnel and adequate equipment to complete all the necessary work requirements within a minimum period of time.
- D. Unless specifically authorized by the Owner, in writing, the work must be conducted between the hours of 7:00 a.m. and 7:00 p.m. on Monday through Saturday. No work is to be done on Sundays other than for emergencies, or unless specifically authorized by the Owner.
- E. The Contractor is responsible for the security of partially completed work until the project is accepted by the Owner.
- F. There shall be no unauthorized storage of materials, tools, or equipment on any adjacent private property.
- G. Only materials or equipment intended and necessary for immediate use shall be brought into the sites. At the end of each workday and at the completion of each phase of work, all rubbish, waste, tools, equipment and appurtenances caused by and used in the execution of the work shall be removed from the site unless otherwise specifically authorized by the Owner. No tools or materials may be left unattended on site unless in a secured area with no public access. The Contractor is responsible for maintaining a clean site free of debris, leaving all work in a clean condition.
- H. The Contractor shall develop a project schedule indicating time period and sequence for completion of work on the site. Upon approval, the project schedule shall be adhered to. Any deviations from the schedule could be subject to penalties at the discretion of the Owner. The work must be completed in a continuous uninterrupted operation, with sufficient personnel and adequate equipment to complete all necessary work requirements within minimum period of time. Contractor shall pay special attention to sequence of demolition and installation, in order to ensure site safety at all times.

3.01 COORDINATION

- A. The Contractor shall submit for approval to the Owner a detailed operational plan showing the sequence of operations prior to commencement of any work at the site. Any changes to this operational plan must be approved by the Owner.

- B. The Contractor must retain on the Work during its progress a competent full time representative, satisfactory to the Owner. This representative shall not be changed, except with the consent of the Owner. The representative shall be in full charge of the work and all instructions given to this person by the Owner shall be binding.
- C. The Contractor must supply to the Owner the home telephone number of a responsible person who may be contacted during non-work-hours for emergencies on the Project.

4.01 ALTERATION

- A. After installation of new work, the contractor shall patch, repair or replace all existing materials and surfaces that have been inadvertently damaged. All patch and repair work shall match existing.

5.01 RETAINED ITEMS

- A. The following items that are to be removed and are in good condition shall be retained by the Owner (at the discretion of the Owner) and shall be stored at a location directed by the Owner.

END OF SECTION

SECTION 01300

SUBMITTALS

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Submittal procedures
- B. Construction progress schedules
- C. Proposed products list
- D. Shop drawings
- E. Product data
- F. Samples
- G. Manufacturers' instructions
- H. Manufacturers' certificates
- I. Construction photographs

1.02 RELATED SECTIONS

- A. Section 01019 - Contract Considerations: Schedule of Values.
- B. Section 01400 - Quality Control: Manufacturers' field services and reports.
- C. Section 01700 - Contract Closeout: Contract warranty, manufacturer's certificates and closeout submittals.

1.03 SUBMITTAL PROCEDURES

- A. Transmit each submittal with Project Manager accepted form (see sample at end of this section).
- B. Sequentially number the transmittal forms. Re-submittals shall have original number with an alphabetic suffix.
- C. Identify Project, Contractor, Subcontractor or supplier; pertinent Drawing sheet and detail number(s), and specification Section number, as appropriate.
- D. Apply Contractor's stamp, signed or initialed certifying that review, verification of Products required, field dimensions, adjacent construction work, and coordination of information, is in accordance with the requirements of the Work and Contract Documents.
- E. Schedule submittals to expedite the Project, and deliver to Project Manager at business address. Coordinate submission of related items.
- F. Identify variations from Contract Documents and Product or system limitations which may be detrimental to successful performance of the completed work.

- G. Provide space for Contractor and Architect review stamps (see sample at end of this section).
- H. Revise and resubmit submittals as required, identify all changes made since previous submittal.
- I. Distribute copies of reviewed submittals to concerned parties. Instruct parties to promptly report any inability to comply with provisions.
- J. Utilize submittal forms as provided (see sample at end of this section).
- K. Refer to sample review/approval form (see sample at end of this section).

1.04 CONSTRUCTION PROGRESS SCHEDULES

- A. Submit initial progress schedule in duplicate within 10 days after date of Owner-Contractor Agreement for Project Manager review.
- B. Revise and resubmit as required.
- C. Submit a horizontal bar chart with separate lines for each major section of work or operation, identifying first work day of each week.
- D. Show complete sequence of construction by activity, identifying Work of separate stages and other logically grouped activities. Indicate the early and late start, early and late finish, float dates, and duration.
- E. Indicate estimated percentage of completion for each item of Work at each submission.
- F. Indicate submittal dates required for shop drawings, product data, samples, and product delivery dates.

1.05 PROPOSED PRODUCT LIST

- A. Within 15 days after date of Notice to Proceed, submit complete list of major products proposed for use, with name of manufacturer, trade name, and model number of each product.
- B. For products specified only by references standards, give manufacturer, trade name, model or catalog designation, and reference standards.

1.06 SHOP DRAWINGS

- A. Submit in accordance with the general conditions of this Contract.

1.07 PRODUCT DATA

- A. Product data, and sample submissions shall clearly identify by note, mark, or labels the specification paragraph(s) applicable to each product.
- B. Product data shall be submitted to the Project Manager in packets with copies for distribution and filing as the Project Manager may prescribe, accompanied by an appropriate transmittal form. Product data shall include complete specifications, performance data, certified laboratory test report data, installation instructions, health and

safety precautions, and maintenance instructions, and shall show illustrated capacities, characteristics, wiring diagrams, controls, and other pertinent information for complete product and product use description. If more than one size or type is shown on any printed sheet, indicate clearly intended item(s).

- B. Mark each copy to identify applicable products, models, options, and other data. Supplement manufacturer's standard data to provide information unique to this project.
- C. After review, reproduce and distribute in accordance with Articles on Procedures above.
 - 1. When approved or disapproved, the Project Manager shall retain the copies. Submit sufficient copies for all other parties. -No "Disapproved" or "Resubmit" copies shall be sent to the job site.

1.08 SAMPLES

- A. Submit samples to illustrate functional and aesthetic characteristics of the Product, with integral parts and attachment devices. Coordinate sample submittals for interfacing work.
- B. Submit samples of finishes, colors, textures, and patterns for the Landscape Architect's selection. Samples shall be clearly labeled as to its material, type or make, manufacturer, size or gauge, and other pertinent data.
- C. Include identification on each sample, with full Project information accompanied by an appropriate transmittal form.
- D. Submit the number or samples specified in individual specification Sections; one of which will be retained by the Landscape Architect.
- E. Reviewed samples which may be used in the Work are indicated in individual specification Sections.

1.09 MANUFACTURER'S INSTRUCTIONS

- A. When specified in individual specification Sections, submit manufacturers' printed instructions for delivery, storage, assembly, installation, start-up, adjusting, finishing, and maintenance in quantities specified for Product Data.
- B. Identify conflicts between manufacturers' instructions and Contract Documents, and notify the Project Manager in writing of such conflicts prior to fabrication, construction or application of the particular item.

1.10 MANUFACTURER'S CERTIFICATES

- A. When specified in individual specification Sections, submit manufacturers' certificate to the Project Manager for review, in quantities specified for Product Data.
- B. Indicate material or product conforms to or exceeds specified requirements. Submit supporting reference data, affidavits, and certifications as appropriate.
- C. Certificates may be recent or previous test results on material or Product, but must be acceptable to the Project Manager.

Date: _____

Project: _____

Dear Sirs:

The following shop drawings, catalog cuts, and/or manufacturer's specifications are submitted for your review to permit incorporation of the products into the work. These have been prepared by this office or received from manufacturers or installers in accord with the contract.

We have checked and approved the submitted information and certify that it complies with the intent of the contract documents, has been field verified, and meets necessary construction criteria. Any deviation from the requirements of the contract documents is stated below.

List of Submittals

Specification Page or Item

Deviations from Contract Requirements:

Very truly yours,

Contractor's Signature _____
Name _____
Title _____

SAMPLE REVIEW/APPROVAL FORM

☐ APPROVED

☐ APPROVED AS NOTED

Resubmission (is) required
(is not) required

☐ DISAPPROVED

Checked by:

Date:

The Construction Manager's approval of this is only for conformance with the design concept of the Project and compliance with the information given in the Contract to be confirmed and correlated to the job site; for quantities; for information that pertains solely to the fabrication processes or to techniques of Construction; and for the coordination of the work of all trades. This approval shall not relieve the Contractor from responsibility for deviations from drawings or specifications or errors to shop drawings or schedules.

- END OF SECTION 01300 -

SECTION 01400
QUALITY CONTROL

PART 1 - GENERAL

1.01 DESCRIPTION

- A. These general requirements apply to all work operations. Refer to other Division specification sections for specific general, product, and execution requirements.

1.02 SECTION INCLUDES

- A. Quality assurance and control of installation
- B. References
- C. Field samples
- D. Inspection and testing laboratory services

1.03 RELATED SECTIONS

- A. Section 01300 - Submittals: Submission of Manufacturer's Instructions and Certificates.
- B. Section 01600 - Material and Equipment: Requirements for materials and product quality.

1.04 QUALITY ASSURANCE/CONTROL OF INSTALLATION

- A. Monitor quality control over suppliers, manufacturers, products, services, site conditions, and workmanship, to produce work of specified quality.
- B. Comply fully with manufacturers' instructions, including each step in sequence.
- C. Should manufacturers' instructions conflict with Contract Documents, notify the Construction Manager.
- D. Perform work by persons qualified to produce workmanship of specified quality.
- E. Comply with specified standards as a minimum quality for the work except when more stringent tolerances, codes, or specified requirements indicate higher standards or more precise workmanship.
- F. Secure Products in place with positive anchorage devices designed and sized to withstand stresses, vibration, physical distortion or disfigurement.

1.05 REFERENCES

- A. Conform to reference standard by date of issue current on date of Contract Documents.
- B. Obtain copies of standards when required by Contract Documents.

1.06 FIELD SAMPLES

- A. Install field samples at the site as required by individual specification Sections for review.
- B. Acceptable samples represent a quality level for the Work.
- C. Where field samples are specified in individual Sections to be removed, clear area after field sample has been accepted by Project Manager.

1.07 INSPECTION AND TESTING LABORATORY SERVICES

- A. Owner may appoint, employ services of an independent firm to perform inspection and testing. Contractor shall be required to pay for all services required.
- B. The independent firm will perform inspections, tests, and other service specified in the individual specification Sections and as required by the Project Manager.
- C. Reports will be submitted by the independent firm to the Project Manager, in duplicate indicating observations and results of tests and indicating compliance or non-compliance with the Contract Documents.
- D. Cooperate with independent firm; furnish samples of materials, design mix, equipment, tools, and provide storage and assistance as required.
 - 1. Make arrangements with independent firm and pay for additional samples and tests required for contractor's use.
 - 2. Notify Project Manager and independent firm 24 hours prior to expected time of operations requiring services.
 - 3. The location for all testing to be performed shall be determined by the Project Manager. The schedule for all testing shall be approved by the Project Manager.
- E. Retesting required because of non-conformance to specified requirements shall be performed by the same independent firm on instructions by Owner. Payment for retesting will be charged to the Contractor.

- END OF SECTION 01400 -

SECTION 01500

CONSTRUCTION FACILITIES AND TEMPORARY CONTROLS

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Temporary Utilities: Electricity, lighting, ventilation, water, and sanitary facilities.
- B. Temporary Controls: Barriers, fencing, water control, enclosures, protection of the Work, and security.
- C. Construction Facilities: Parking, progress cleaning, project signage, and temporary buildings.

1.02 RELATED SECTIONS

- A. Section 01700 - Contract Closeout: Final cleaning

1.03 TEMPORARY ELECTRICITY

- A. Provide and pay for power service required from Nstar.
- B. Provide power outlets for construction operations, with branch wiring and distribution boxes located as required. Provide flexible power cords as required.
- C. Provide main service disconnect and overcurrent protection at convenient location.

1.04 TEMPORARY LIGHTING

- A. Provide branch wiring from power source to distribution boxes with lighting conductors, pigtails, and lamps as required.
- B. Maintain lighting and provide routine repairs.

1.05 TEMPORARY WATER SERVICE

- A. Connect to existing water source for construction operations.
- B. Extend branch piping with outlets located so water is available by hoses with threaded connections. Provide temporary pipe insulation to prevent freezing.
- C. Obtain necessary permits from the City of Somerville; pay all costs of permit and water used during term of contract.

1.06 TEMPORARY SANITARY FACILITIES

- A. Provide and maintain required facilities and enclosures. Existing facilities shall not be used.

1.07 BARRIERS

- A. Provide barriers to prevent unauthorized entry to construction areas and to protect existing facilities and adjacent properties from damage from construction operations and demolition.
- B. Provide protection for plants designated to remain. Replace damaged plants.
- C. Protect non-owned vehicular traffic, stored materials, site and structures from damage.

1.08 FENCING

- A. Provide safety fencing as needed and as directed by the Project Manager.

1.09 WATER CONTROL

- A. Grade site to drain. Maintain excavations free of water. Provide, operate, and maintain pumping equipment.
- B. Protect site from puddling or running water. Provide water barriers as required to protect site from soil erosion.

1.10 PROTECTION OF INSTALLED WORK

- A. Protect installed Work and provide special protection where specified in individual specification Sections.
- B. Provide temporary and removable protection for installed Products. Control activity in immediate work area to minimize damage.
- C. Provide protective coverings at walls, projections and openings.
- D. Protect surfaces from traffic, dirt, wear, damage, or movement of heavy objects, by protecting with durable sheet materials.

1.11 SECURITY

- A. Provide security and facilities to protect Work and existing facilities from unauthorized entry, vandalism, or theft.
- B. Coordinate with Owner's security program.

1.12 PARKING AND SITE ACCESS

- A. Arrange for temporary off-site parking to accommodate construction personnel.

1.13 PROGRESS CLEANING

- A. Maintain areas free of waste materials, debris, and rubbish. Maintain site in a clean and orderly condition.
 - a. Remove waste materials, debris, and rubbish from site weekly and dispose off-site.

1.14 PROJECT IDENTIFICATION

- A. Erect 4-foot by 6-foot sign with the City Seal, Mayor's name and 311 information on site at a location established by Project Manager.
- B. No other temporary signs are allowed without Owner's permission except those required by law.

1.15 REMOVAL OF UTILITIES, FACILITIES, AND CONTROLS

- A. Remove temporary above grade or buried utilities, equipment, facilities, materials, prior to Final Application for Payment inspection.
- B. Remove underground installations to a minimum depth of 2 feet (600 mm). Grade site as indicated.
- C. Clean and repair damage caused by installation or use of temporary work.

1.16 POLICE DETAIL

- A. Contractor shall cover the cost of any police detail necessary for completion of the work.

- END OF SECTION 01500 -

SECTION 01510

PROTECTION

1.01 PROTECTION OF PERSONS & PROPERTIES

- A. Any damage to buildings, roads, (public and private), bituminous concrete areas, fences, lawn areas, trees, shrubbery, poles, underground utilities, etc. shall be made good by and at the Contractor's own expense, all to the satisfaction of the Owner. Any plantings, shrubbery, lawn areas and all other site amenities damaged by the Contractor shall be replaced, re-seeded, or otherwise restored to their original condition, at the Contractor's expense. No trucks or equipment of any type shall be allowed to drive over lawns, planted areas, and sidewalks at any time under any circumstances, unless such areas are included in the improvement work, and until such areas are to be actually improved as shown in the work schedule.
- B. The Contractor shall patch, repair and/or replace all adjacent materials and surfaces damaged after the installation of new work at no expense to the Owner. All repair and replacement work shall match the existing in kind and appearance.
- C. Damaged property shall be returned to its proper condition within a reasonable time period except all utility outages shall be repaired immediately.
- D. Existing trees damaged irreparably, as determined by the City, shall be replaced. Replacement costs for each damaged tree shall be:
 - 1. 6-12" caliper \$1,800.
 - 2. 12-18" caliper \$2,500.
 - 3. over 18" caliper \$3,500.

2.01 TEMPORARY PROTECTION

- A. The Contractor shall:
 - 1. Protect excavations, trenches, and materials at all times from rain water, ground water, backing-up, or leakage of sewers, drains, or other piping, or from water damage of any origin. Provide all pumps, piping, coverings, and other materials and equipment as required by job conditions to accomplish this requirement.
 - 2. Protect decks and slabs to receive work by other trades from any soiling which will prevent proper adhesion of subsequent Work. Decks and slabs shall be left clean and free of blemishes at the time other trades begin the application of their work.
 - 3. Protect all surfaces to receive work by other trades from any soiling which will prevent proper execution of subsequent work
 - 4. Any areas damaged by the Contractor shall be restored to the original condition or compensated at the Contractor's expense.
- B. Roof surfaces and waterproofed surfaces shall not be subjected to traffic nor shall they be used for storage of materials. Where some activity must take place in order to carry out the Work, adequate protection must be provided.
- C. After the installation of the Work by any Subcontractor is completed, the Contractor shall be responsible for its protection and for repairing, replacing, or cleaning any such Work which has been damaged by other trades or by any other cause, so that all Work is in first class condition at the time of Substantial Completion.

3.01 ACCESS

- A. The Contractor shall, at all times, leave an unobstructed way along walks and roadways, and shall maintain barriers and lights for the protection of all persons and property in all locations where materials are stored or work is in progress.

4.01 SECURITY

- A. The Contractor shall be responsible for providing all security precautions necessary to protect the Contractor's and Owner's interests.
- B. Where excavation is involved, the Contractor shall be responsible for providing continuous watchmen service as necessary, to insure adequate protection of the general public.

5.01 NOISE AND DUST CONTROL

- A. The Contractor shall take special measures to protect the residents, neighbors, and general public from noise, dust, and other disturbances by:
 - (1.) Keeping common pedestrian and vehicular circulation areas clean and unobstructed;
 - (2.) Insulating work area from occupied portions as far as possible; and
 - (3.) Sealing dust and fumes from contaminating adjacent areas.

6.01 FIRE PROTECTION

- A. The Contractor shall take necessary precautions to insure against fire during construction. The Contractor shall be responsible to insure that the area within contract limits is kept orderly and clean and that combustible rubbish and construction debris is promptly removed from the site.
- B. Installation of equipment suitable for fire protection shall be done as soon as possible after commencement of the Work. The Contractor's attention is directed to the requirements of the Commonwealth of Massachusetts, Department of Labor and Workforce Development Regulation 454 CMR.

7.01 WIND PROTECTION

- A. Should high wind warnings be issued by the U.S. Weather Bureau, the Contractor shall take every precaution to minimize danger to persons, to the Work, and to the adjacent property.

8.01 WEATHER PROTECTION

- A. The Contractor shall provide Weather Protection as required by Specification Section 01500 Temporary Facilities and any other specific requirements of the Contract Documents.

END OF SECTION

SECTION 01520

CLEANUP

1.01 RELATED DOCUMENTS

- A. This section supplements the General Conditions.
- B. Consult the individual sections of the specifications for cleaning of Work installed under those sections.

2.01 CLEANING DURING CONSTRUCTION

- A. Conduct cleaning and disposal operations to comply with local ordinances and anti-pollution laws.
 - 1. Do not burn or bury rubbish and waste materials on the site.
 - 2. Do not dispose of volatile wastes such as mineral spirits, oil, or paint thinner in storm or sanitary drains.
 - 3. Do not dispose of wastes into streams or waterways.
- B. Wet down dry materials and rubbish to lay dust and prevent blowing dust.
- C. Maintain the site free from accumulations of waste, debris, and rubbish.
- D. Provide on-site containers for collection of waste materials and rubbish.
- E. At the end of each day, remove and legally dispose waste materials and rubbish from site.
- F. Schedule cleaning operations so that dust and other contaminants resulting from cleaning process will not fall on wet, newly painted surfaces.
- G. Disposal of materials shall be in compliance with all applicable laws, ordinances, codes, and by-laws.

3.01 FINAL CLEANING

- A. Prior to submitting a request to the Project Manager to certify Substantial Completion of the Work, the Contractor shall inspect the site and verify that all waste materials, rubbish, tools, equipment, machinery, and surplus materials have been removed; and that all sight-exposed surfaces are clean. Leave the project clean and ready for occupancy.
- B. Unless otherwise specified under other sections of the Specifications, the Contractor shall perform final cleaning operations as herein specified prior to final inspection.
- C. Cleaning shall include all surfaces, interior and exterior, which the Contractor has had access to, whether new or existing.
- D. Use only cleaning materials recommended by the manufacturer of the surface to be cleaned.
- E. Use cleaning materials which will not create a hazard to health or property and which will not damage surfaces.

- F. Remove grease, mastic, adhesive, dust, dirt, stains, labels, fingerprints, and other foreign materials from sight-exposed interior and exterior surfaces. This includes cleaning of the Work of all finishing trades where needed, whether or not cleaning by such trades is included in their respective specifications.
- G. Repair, patch, and touch up marred surfaces to the specified finish, to match adjacent surfaces.
- H. Polish glossy surfaces to a clear shine.
- I. Do the final cleaning of resilient floors and wood floors as specified under the respective sections of the Specifications.
- J. In cleaning items with manufacturer's finish or items previously finished by a Subcontractor, care shall be taken not to damage such manufacturer's or Subcontractor's finish. Any damage to finishes caused by cleaning operations shall be repaired at the Contractor's expense.
- K. Broom clean exposed concrete surfaces and paved surfaces. Rake clean other surfaces of grounds.
- L. Contractor's responsibility for cleaning ceases at Substantial Completion.

END OF SECTION

SECTION 01600
MATERIAL AND EQUIPMENT

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Products
- B. Transportation and handling
- C. Storage and protection
- D. Product options
- E. Substitutions

1.02 RELATED SECTIONS

- A. Section 01400 - Quality Control: Product quality monitoring.

1.03 PRODUCTS

- A. Products: means new material, machinery, components, equipment, fixtures, and systems forming the Work. Does not include machinery and equipment used for preparation, fabrication, conveying and erection of the Work. Products may also include existing materials or components required for reuse.
- B. Do not use materials and equipment removed from existing premises, except as specifically permitted by the Contract Documents.
- C. Provide interchangeable components of the same manufacturer, for similar components.

1.04 TRANSPORTATION AND HANDLING

- A. Transport and handle products in accordance with manufacturer's instructions.
- B. Promptly inspect shipments to assure that products comply with requirements, quantities are correct, and products are undamaged.
- C. Provide equipment and personnel to handle products by methods to prevent soiling, disfigurement, or damage.

1.05 STORAGE AND PROTECTION

- A. Store and protect products in accordance with manufacturer's instructions, with seals and labels intact and legible. Store sensitive products in weather-tight, climate controlled enclosures.
- B. For exterior storage of fabricated products, place on sloped supports, above ground.

- C. Provide off-site storage and protection when site does not permit on-site storage or protection.
- D. Cover products subject to deterioration with impervious sheet covering. Provide ventilation to avoid condensation.
- E. Store loose granular materials on solid flat surfaces in a well-drained area. Prevent mixing with foreign matter.
- F. Provide equipment and personnel to store products by methods to prevent soiling, disfigurement, or damage.
- G. Arrange storage of products to permit access for inspection. Periodically inspect to assure products are undamaged and are maintained under specified conditions.

1.06 PRODUCT OPTIONS

- A. Products Specified by Reference Standards or by Description Only: Any product meeting those standards or description.
- B. Products Specified by Naming One or More Manufacturers: with a Provision for Substitutions: Submit a request for substitution for any manufacturer not named.

1.07 SUBSTITUTIONS

- A. The Engineer will consider requests for substitutions only within 20 days after date of Owner-Contractor Agreement.
- B. Substitution may be considered when a product becomes unavailable through no fault of the contractor.
- C. Document each request with complete data substantiating compliance of proposed substitution with Contract Documents.
- D. A request constitutes a representation that the Contractor:
 - 1. Has investigated proposed product and determined that it meets or exceeds the quality level of the specified product.
 - 2. Will provide the same warranty for the substitution as for the specified product.
 - 3. Will coordinate installation and make changes to other Work which may be required for the Work to be completed with no additional cost to Owner.
 - 4. Waives claims for additional costs or time extension which may subsequently become apparent.
- E. Substitutions will not be considered when they are indicated or implied on shop drawing or product data submittals, without separate written request, or when acceptance will require revision to the Contract Documents..
- F. Substitution Submittal Procedure:
 - 1. Submit three copies of requests for Substitution for consideration. Limit each request to one proposed Substitution.

2. Submit show drawings, product data, and certified test results attesting to the proposed product equivalence.
3. The Engineer will notify Contractor, in writing, of decision to accept or reject request.

- END OF SECTION 01600 -

SECTION 01700
CONTRACT CLOSEOUT

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Closeout procedures
- B. Final cleaning
- C. Adjusting
- D. Project record documents
- E. Warranties
- F. Spare parts and maintenance materials

1.02 RELATED SECTIONS

- A. Section 01500 - Construction Facilities and Temporary Controls: Progress cleaning.

1.03 CLOSEOUT PROCEDURES

- A. Submit written certification that Contract Documents have been reviewed, Work has been inspected, and that Work is complete in accordance with Contract Documents and ready for the Project Manager.
- B. Provide submittals to the Project Manager that are required by governing or other authorities.
- C. Submit final Application for Payment identifying total adjusted Contract Sum, previous payments, and sum remaining due.
- D. Owner will occupy all of the site as specified in Section 01039.

1.04 FINAL CLEANING

- A. Execute final cleaning prior to final inspection.
- B. Clean surfaces exposed to view.
- C. Clean equipment and fixtures to a sanitary condition.
- D. Clean site; sweep paved areas, rake clean landscaped surfaces.
- E. Remove waste and surplus materials, rubbish, and construction facilities from the site.

1.05 ADJUSTING

- A. Adjust operating Products and equipment to ensure smooth and unhindered operation.

1.06 PROJECT RECORD DOCUMENTS

- A. Pursuant to the GENERAL SPECIFICATIONS, the Contractor shall maintain at the site for the Owner, readily available to the Project Manager for inspection, one record copy of all Drawings, Specifications, Addenda, Change Orders, and other Modifications, in good order and market currently to record all changes made during construction, and approved Product Data and Samples.

The Project Manager will periodically inspect these record drawings, and their proper maintenance shall be a condition precedent to approval of requisitions for periodic payments. One set of prints of all of the Documents required for this purpose will be provided by Owner, without charge to the Contractor. All the record documents, shop drawings, product data, and samples shall be made available to the Project Manager and shall be delivered to her for the Owner upon completion of the work.

Maintain on site, one set of the following record documents; record actual revisions to the Work:

1. Contract Drawings
 2. Specifications
 3. Addenda
 4. Change Orders and other Modifications to the Contract
 5. Reviewed shop drawings, product data, and samples.
- B. Store Record Documents separate from documents used for construction.
- C. Record information concurrent with construction progress.
- D. Specifications: Legibly mark and record at each Product section description of actual Products installed, including the following:
1. Manufacturer's name and product model and number
 2. Product substitutions or alternates utilized
 3. Changes made by Addenda and Modifications.
- E. Record Documents: Legibly mark each item to record actual construction including:
1. Spot elevations of the constructed, finish elevations.
 - a. Document as-built spot elevations at all drainage structure rims, high points, low points, utility structures, and at all locations where proposed spot elevations are shown on the Drawings.
 2. Measured horizontal and vertical locations of underground utilities and appurtenances, referenced to permanent surface improvements.
 3. Field changes of dimension and detail.
 4. Details not on original Contract Drawings.

- F. In addition, at the completion of the work, the contractor shall provide a set of marked-up working drawings showing as built changes to the original construction plans to the Project Manager.

1.07 WARRANTIES

- A. Provide duplicate notarized copies.
- B. Execute and assemble documents from Subcontractors, suppliers and manufacturers.
- C. Provide Table of Contents and assemble in three D side ring binder with durable plastic cover.
- D. Submit prior to final Application for Payment.
- E. For items of Work delayed beyond date of Substantial Completion, provide updated submittal within ten days after acceptance, listing date of acceptance as start of warranty period.

1.08 SPARE PARTS AND MAINTENANCE MATERIALS

- A. Provide products, spare parts, maintenance and extra materials in quantities specified in individual specification Sections.
- B. Deliver to and place in location as directed. Obtain receipt prior to final payment.

1.09 OPERATING AND MAINTENANCE MANUAL

- A. Omitted
- B. The manual shall include service, maintenance and cleaning instructions for all manufactured products, finishes, and systems.
- C. Each volume of the manual shall be clearly indexed, and shall include a directory of all Subcontractors, material suppliers, local maintenance organizations, indicating the area of responsibility of each, and the name and telephone number of the responsible member of each organization.
- D. All material shall be bound in order and sequence conforming to the Specification numbering system. Typewritten, drawn or photographic materials shall be protected by clear plastic sleeves.
- E. The manuals shall be submitted at time of substantial completion of the project and initial occupancy by the Owner. The Contractor shall maintain and operate the systems for the project until the approved manuals are transmitted to the Owner and the Owner's personnel are instructed in its operation.

- END OF SECTION 01700 -

**SECTION 01720
SURVEYS AND RECORD DRAWINGS**

1.01 SURVEYS

A. (not applicable)

2.01 RECORD DRAWINGS

- A. Record Drawings shall consist of all the Contract Documents and Engineering Plans available from the City Engineer.
- B. The Contractor and the above Subcontractors shall keep their marked-up As-Built drawings of the Engineering Plans set on the site at all times and note on it in colored ink or pencil, neatly and accurately, at the end of each working day, the exact location of their work as actually installed. This shall include the location and dimensions of underground and concealed Work, and any design, mechanical, or electrical variations from the Contract Drawings. All changes, including those issued by Addendum, Change Order, or instructions by the Engineer shall be recorded. Marked-up As-Built drawings shall be prepared for the entire project and include all Work, including but not limited to:
1. The location of all underground utilities and appurtenances referenced to permanent surface improvements, both horizontally and vertically at ten (10) foot intervals and at all changes of direction.
 2. The location of all internal utilities and appurtenances, concealed by finish materials, including but not limited to valves, coils, dampers, vents, cleanouts, strainers, pipes, junction boxes, turning vanes, variable and constant volume boxes, ducts, traps, and maintenance devices.
- a. The location of these items shall be shown by offsets to structure and drawing grid lines.
- The tolerance for the actual location of these items on the marked-up As-Built Drawings shall be plus or minus two (2) inches.
 - Each item shall be referenced by showing a tag number, areas served, and function on the marked-up As-Built drawing
- C. The Engineer may periodically inspect the marked-up As-Built plans at the site. The proper and current maintenance of the information required on these drawings shall be a condition precedent to approval of the monthly applications for payment.
- D. At Substantial Completion the Contractor shall submit the complete set of marked-up As-Built drawings to the Engineer. The Contractor shall check all marked-up As-Built plans prepared by subcontractors and certify in writing on the title sheet of the drawings that they are complete and correct, prior to submission to the Engineer.
- E. The Engineer shall review the marked-up As-Built drawings and verify by letter to the Owner that the Work is complete. The Engineer shall incorporate all changes onto original drawings.
- F. The Contractor may make a written request for copies of the completed Record Drawings. The Contractor shall reimburse the Owner directly for the cost of printing of any requested Record Drawings.
- G. Submission of accurate marked-up As-Built drawings and their approval by the Engineer shall be a condition precedent to final payment.

END OF SECTION

SECTION 02000 – SITE SPECIFIC GUIDELINES

1.00 General Guidelines

ADA Requirements

Each curb shall meet the latest requirements of the Americans with Disabilities Act for outdoor curb ramps (See Appendix A). Several factors need to be achieved to construct a curb ramp that will be usable by ALL pedestrians. For perpendicular curb ramps, the ramp slope must be perpendicular to the grade break at the gutter line.

The curb ramp landing and gutter connection need to be constructed so water does not pond at the base of the ramp or on the landing and debris does not accumulate. Debris and water reduce the usability of a curb ramp. The ramp and the landing need to be wide enough to be used by all users of the sidewalk system. If at all possible, the curb ramp slope needs to be aligned with the sidewalk and crosswalk to provide an additional cue to assist the visually impaired and blind persons in aligning to cross the street. Paired curb ramps on a corner allow better alignment for people using mobility aids and for pedestrians with vision impairments and make it easier to separate the APS.

Design Professional

The contractor shall hire a design professional, approved by the Project Manager, who will certify that each ramp has been constructed in accordance with the appropriate requirements for construction of outdoor curb ramps under the ADA.

Detectable Warnings

Continuous detectable warnings are required to delineate the pedestrian area from the street area. The detectable warning strip shall be 2 feet wide and be brick red. The installation shall be done in accordance with MassHighway Engineering Directive E-04-007. (Attached)

Concrete and Gravel

Concrete shall be six (6) inches thick air entrained cement concrete, reinforced with No. 4, four by six (4x6) inch mesh, 4000 psi concrete, wood float finished, laid on a base of at least eight (8) inches of compacted base gravel. An expansion joint (3/4 inch open) shall be provided at least every twenty (20) feet; dividing joints shall be scored into walk every four (4) feet. Base gravel material shall be dense graded crushed stone; no stone shall have a dimension in excess of two (2) inches, and shall be compacted to ninety-five (95) percent.

Pedestrian Impact Recovery Signs

Use White Sign **Pedestrian Crosswalk Unit** or equivalent.

White Sign, 45 Dempsey Greaves Lane, Stillwater, ME 04489
<http://www.whitesign.biz/impact.htm>

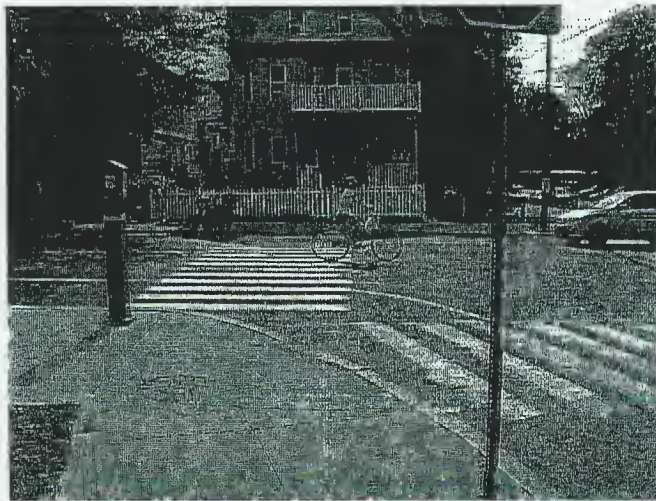
2.00 Site-Specific Guidelines

2.10 Cherry Street and Elm Street

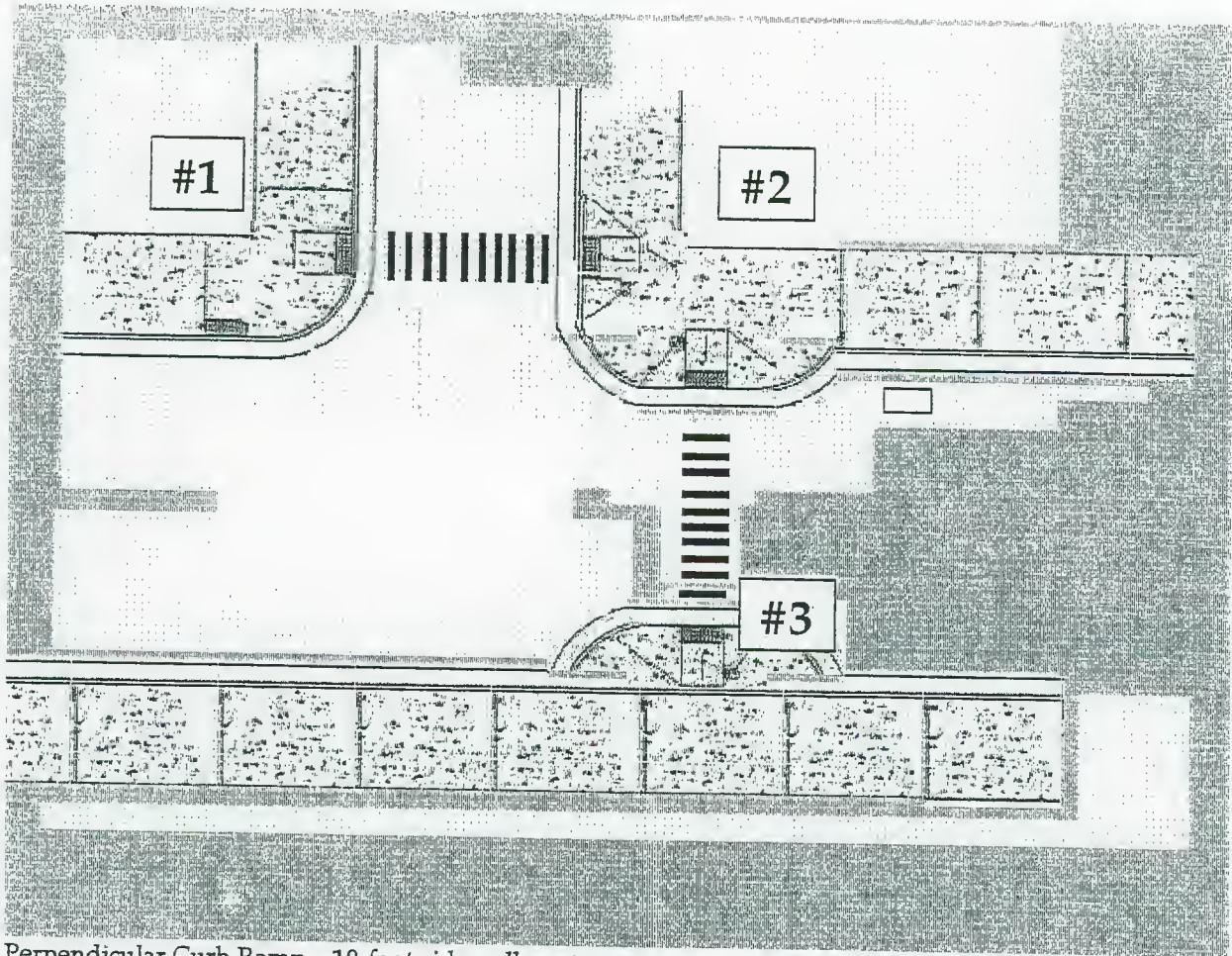
2.11 Site Constraints

An existing fire alarm box prevents the location of a ramp across Elm Street on the southeast corner. A catch basin access manhole cover is located on the northeast corner. A handhold cover is located on the southeast corner.

2.12 Location Photos



2.13 Design Template: Perpendicular Ramps with landings



Perpendicular Curb Ramp – 10-foot sidewalk on tangents

2.14 Site Specific Requirements

This site will need to have the following work performed:

Ramp #1:

- install 6-foot ramp more in line with Pedestrian Accessible Route
- ensure slopes meet 1:12 requirement
- replace all corner sidewalk panels that are showing age (4 , ~ 8' X 8' panels)
- reset manhole cover as necessary to square off corner
- remove and reset mailbox and other street furniture.

Ramp #2

- Remove and shorten the height of the Fire Alarm box so that the pull lever is no more than 54" from ground level.
- Relocate Fire Alarm box to allow ADA ramp.
- Install perpendicular ramps – 6-feet in length on a curb extension 4-wide and 15-feet long
- New curbing as necessary to reduce curb height to comply with ADA requirements
- Joint 4-foot landing
- Relocate Pedestrian crossing sign
- Add catch basin.

Ramp #3

- Relocate Curb Ramp to directly across from new Ramp #2
- Install curb-extension 4-wide and 15-feet long
- Bolt Pedestrian Impact Recovery Signs onto bulb-outs